

USER'S MANUAL

USB 2.0 6in1 / 7in1 Docking Station



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**Docking Station Limitation for support
Serial “Keyboard” and “Mouse” (Page28)**



This Product is achieve the USB 2.0 High-Speed, must be plugged in to USB 2.0 Host Port. If this product is plugged into the USB 1.1 Host port, this product will only have USB 1.1 Full-Speed.

Introduction :

The **USB 2.0 Docking Station** is an all-in-one hub that could simplify your computer connections with just one single box. It expands your computer with one USB Upstream Port, two USB Downstream Ports, one DB25P(female) IEEE 1284 Parallel Port, one DB9P(male) RS232C Serial Port, two PS/2 ports Mini-Din 6P(female), Host Link and one 10/100 Mbps Ethernet RJ-45 Port **(7in1)**. This exclusive product makes expansion amazingly simple, convenient and the most important is that it's economical and inexpensive. No complex installation, confusing cables plug-ins or IRQ's to worry about. You can simply plug and play all of your peripherals without re-booting PC computer.

Features :

USB	✧ Support USB 2.0. ✧ USB and ACPI compliant. ✧ Support USB High-Speed 480Mb/Sec or Full-Speed at 12Mb/sec. ✧ Truly Plug & Play automatic system configuration.
Functions	✧ Compatible with Notebook & Desktop PCs ✧ Two USB 2.0 Downstream ports. ✧ One PS/2 Port for Keyboard ✧ One PS/2 Port for Mouse ✧ One serial Port. ✧ One Parallel Port (Standard IEEE-1284 Parallel Port) ✧ One USB 1.1 Host Link. ✧ One USB 2.0 10/100 Ethernet LAN Port (7in1)
OS	✧ Windows 2000, Windows XP, Windows ME, Windows 98SE
Power	✧ The Docking Station use USB Bus and self power

Specification :

Interface	✧ Universal Serial Bus (USB) Revision 2.0 device.
Function/ Connector	✧ One Upstream Port, USB B-type. ✧ Two USB 2.0 Downstream ports, USB A-type. ✧ One PS/2 Port for Keyboard, 6-pins Mini-Din (female) connector. ✧ One PS/2 Port for Mouse, 6-pins Mini-Din (female) connector. ✧ One serial Port, DB 9-pins (male) connector. ✧ One Parallel Port (Standard IEEE-1284 Parallel Port). DB 25-pins (female) connector. ✧ One USB 1.1 B-type Host Link. ✧ One USB 2.0 10/100 Ethernet LAN Port, RJ-45 connector. (7in1) ✧ Hubs and devices up to total 127 devices. ✧ Plug-and-Play all of your peripherals without re-booting PC computer.

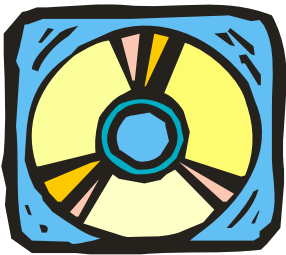
	✧ Expansion amazingly simple.
Cable	✧ USB cable (A to B male)
Transfer Rate	✧ USB transfer rate: High-Speed 480Mb/Sec. ✧ Data read/write speed: Up to 480Mb/Sec.
LED	✧ Power LED ✧ Host Link LED ✧ Ethernet LED (7in1)
Power	✧ Power Adapter DC 6 V. 2.1A
Enclosure	✧ Plastics.
EMI	✧ CE & FCC.

Requirements :

- ✧ IBM PC/AT Compatible.
- ✧ USB 2.0 Host card or USB 2.0 HUB device.
- ✧ Windows 2000, Windows XP, Windows ME or Windows 98SE operating system.

Packing contents :

Please make sure that this package includes the following items.

 USB Docking Station – One	 Software CD Driver include User's Manual – One
 USB cable (A to B male) – One	 Power Adapter – One

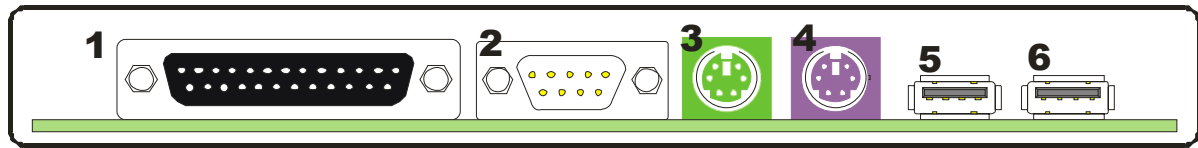


Warnings

Some Main board may have its OWN driver for the USB 2.0 Host driver, please make sure your Main board or PC manufacturer for update details.

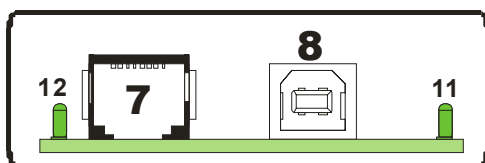
Chapter 1

Hardware Installation Guide :



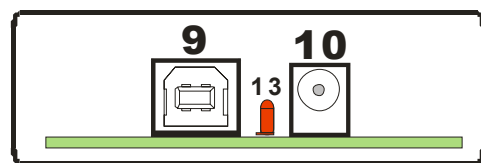
Front Side

- | | | |
|--------------------------|--------------------------------|-------------------|
| 1. Parallel Port (DB25P) | 3. PS/2 Mouse (Mini-Din 6P) | 5. USB 1 (A-type) |
| 2. Serial Port (DB9P) | 4. PS/2 Keyboard (Mini-Din 6P) | 6. USB 1 (A-type) |



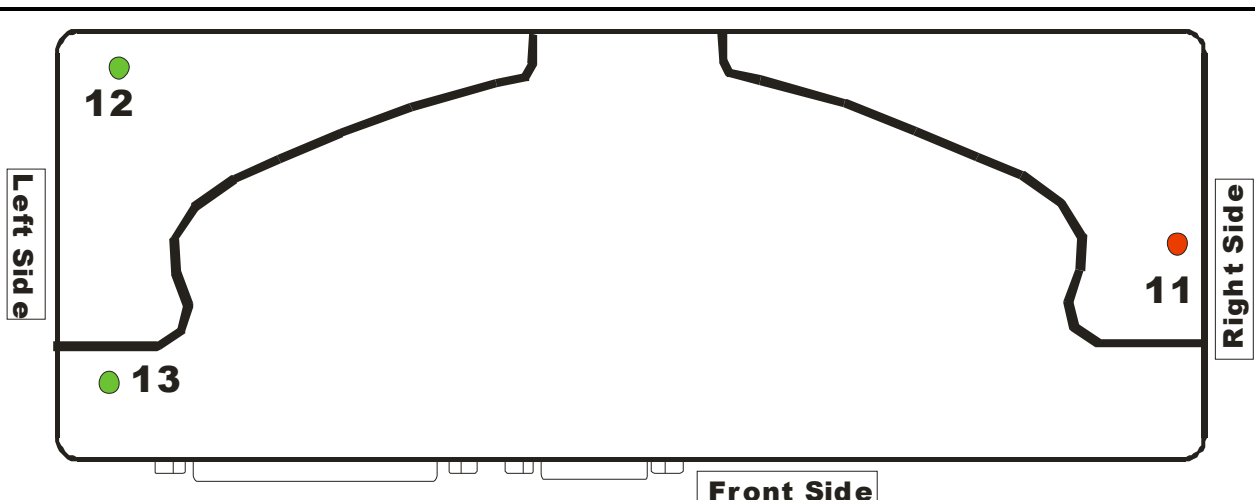
Left Side

- | |
|---|
| 7. USB 2.0 Ethernet (RJ-45) (7in1) |
| 8. USB 1.1 Host Link (B-type) |



Right Side

- | |
|---------------------------|
| 9. Upstream Port (B-type) |
| 10. Power Adaptor |



Front Side



LED		
11. Power LED	12. Ethernet LED (7in1)	13. Host Link LED

Used for I/O applications

USB Port	Digital Camera, Card Reader, Mouse, Scanner, Printer, Removable Storage Drive
PS/2 Port	Mouse, Keyboard
Serial Port	Modem (<i>Page 28</i>)
Parallel Port	Printer (<i>Page 28</i>)
Host Link	Host Link provides a software tool to enable end-user being capable of accessing remote file data in remote computer's storage devices through a simple drag & drop procedure
Ethernet	Pbx, Networking, Dumb Terminal, Point-of-sale

Hardware Installation

Step1 : Connect the power jack of the power adapter and plug it into the right side of the USB Docking Station.

Step2 : Find an unused electrical outlet and plug in the power adapter.

Step3 : Plug the USB cable “A” type in to free USB Host port on computer.

Step4 : Plug the USB cable “B” type into the USB Upstream port connector on the right side of the USB Docking Station.



Warnings

If your OS is Windows 98SE/ME, Windows has finished installing the software. Popup “To finish setting up your new hardware, you must restart your computer” wizard, please choose click “**NO**” to continue install the driver.

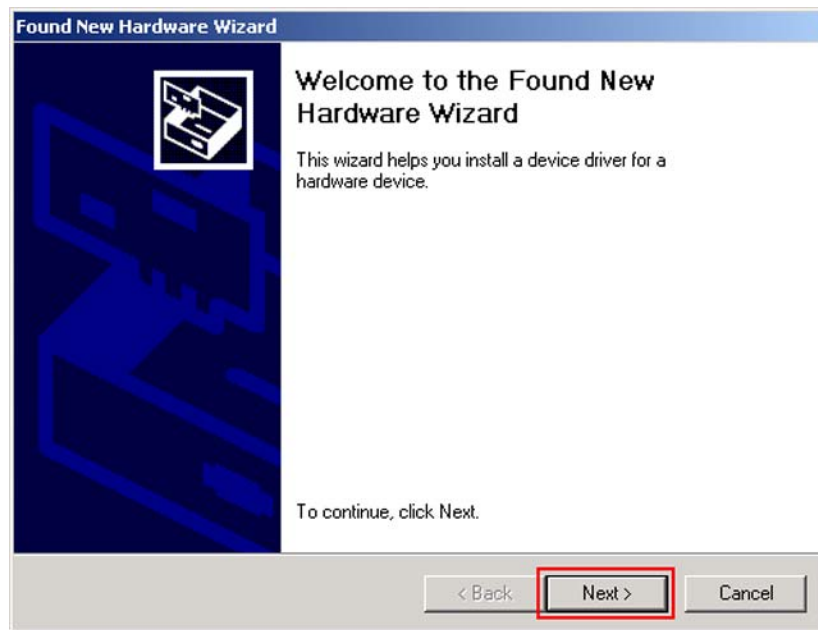
Chapter 2

Software Installation :

Supported OS

Microsoft Windows 2000 · Windows XP · Windows ME · Windows 98SE are supported. Windows will automatically find the USB **Docking Station 6in1 / 7in1**, will prompt new hardware wizard. USB 2.0 Ports, PS/2 Keyboard and Mouse Ports, Data Link Port, Serial Port, Parallel Port and LAN Port (**7in1**). Please follow the software installation wizard step-by-step.

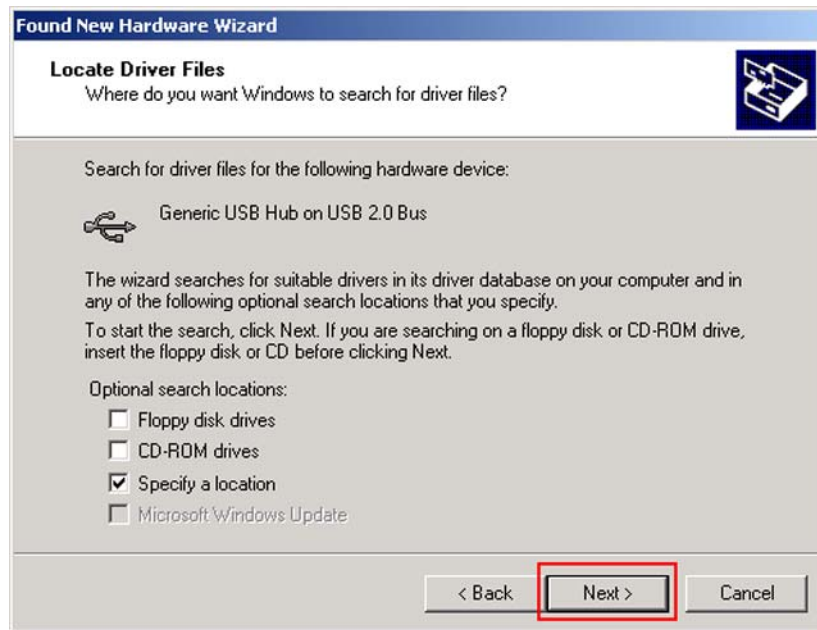
Step1 : Found new hardware wizard, insert the Installation CD into CD-ROM, choose click **“Next”**.



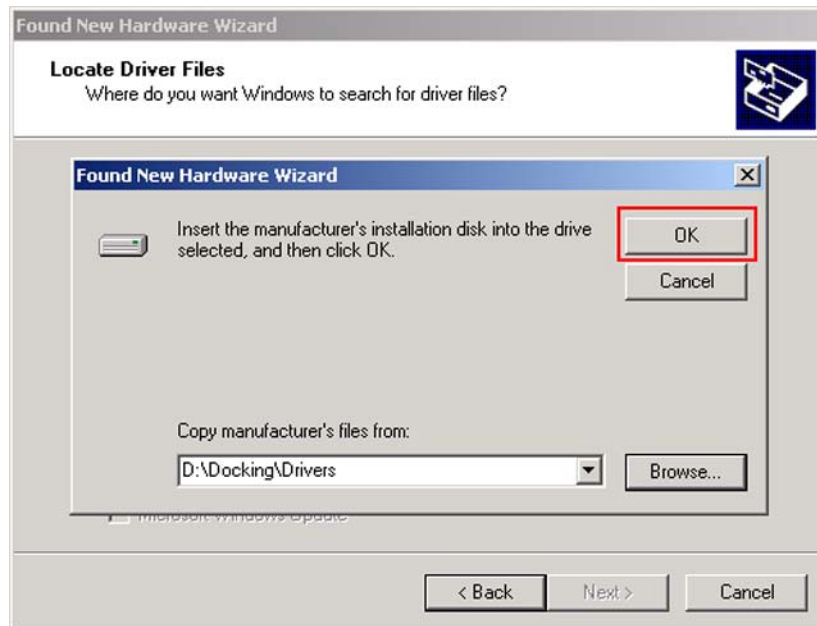
Step2 : Choose click **“Next”**, follow the software installation step-by-step.



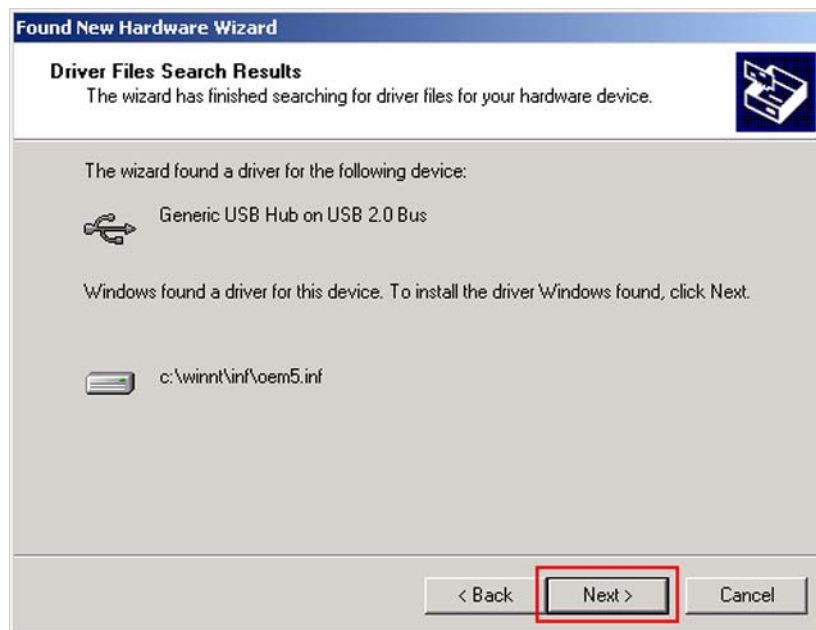
Step3 : Select **“CD-ROM drives”** or **“Specify a Location”**, choose click **“Next”**.



Step4 : Browser a CD driver specify a location, choose click “**OK**”.



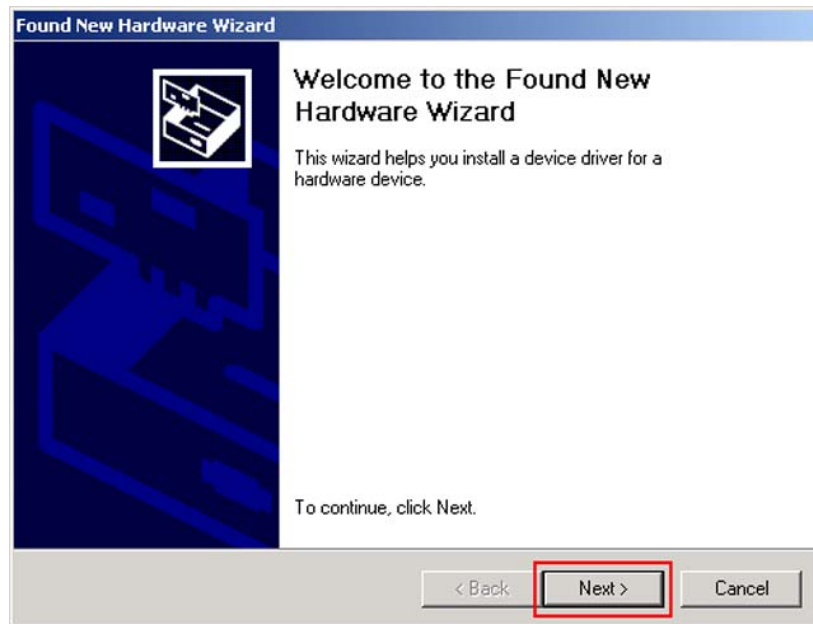
Step5 : Choose click “**Next**”.



Step6 : Choose click “**Finish**”.



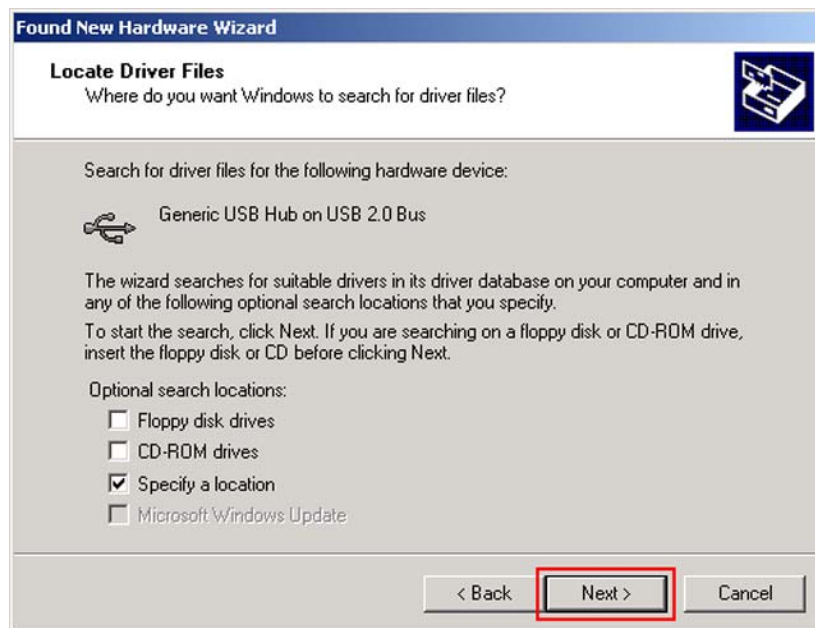
Step7 : Choose click “**Next**”.



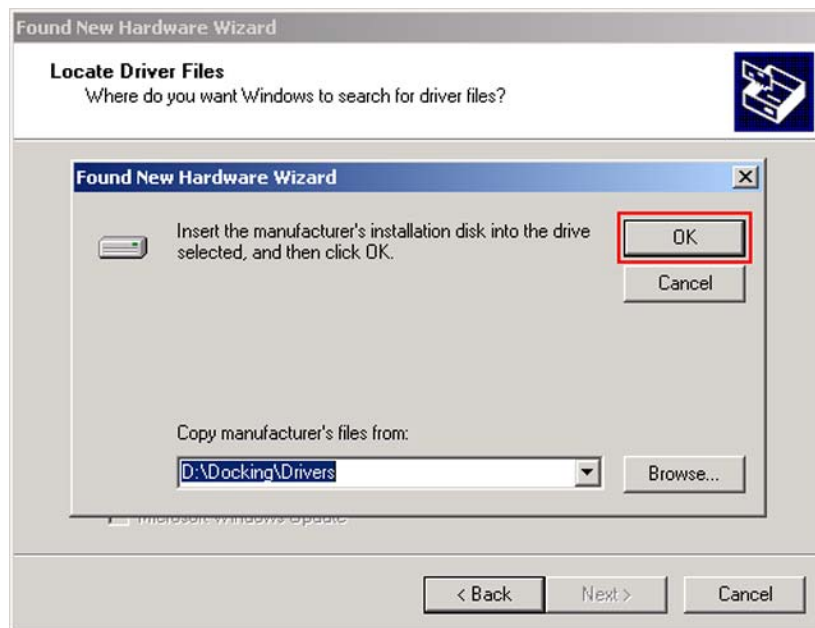
Step8 : Choose click **“Next”**.



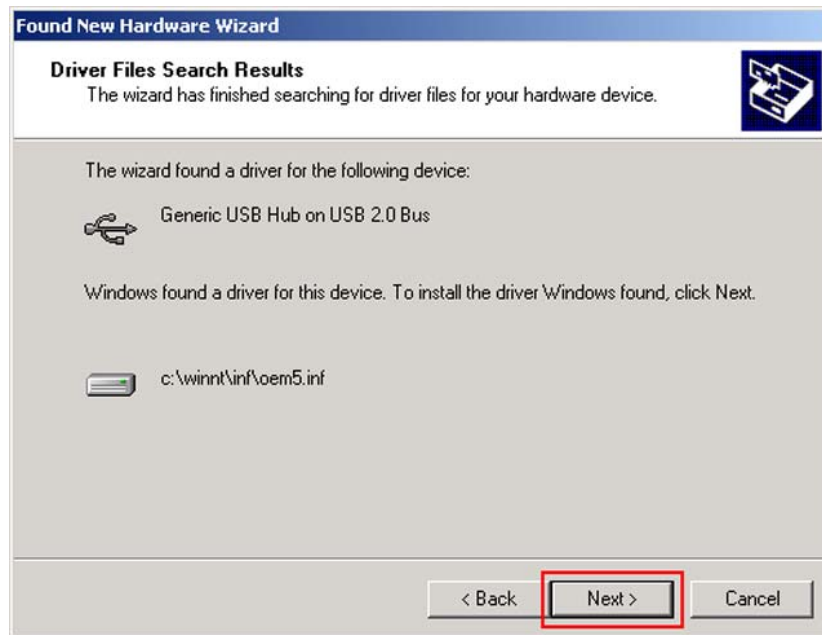
Step9 : Select “CD-ROM drives” or “Specify a Location”, choose click **“Next”**.



Step10 : Browser a CD driver specify a location, choose click “OK”.



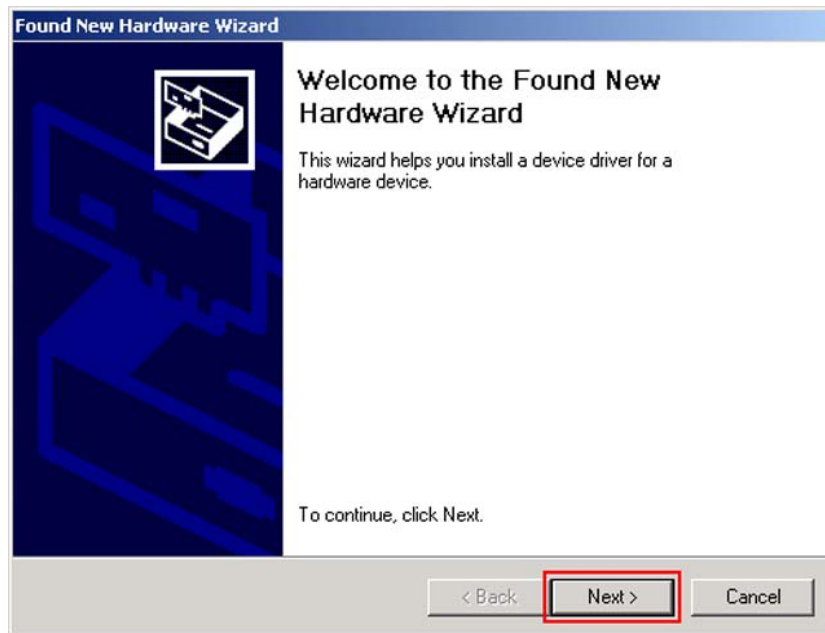
Step11 : Choose click “Next”.



Step12 : Choose click **“Finish”**.



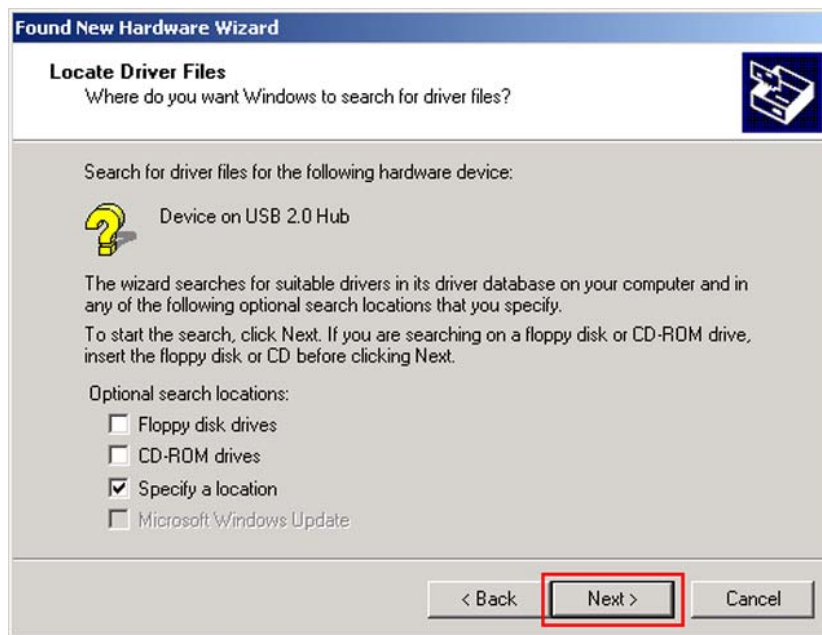
Step13 : Choose click **“Next”**.



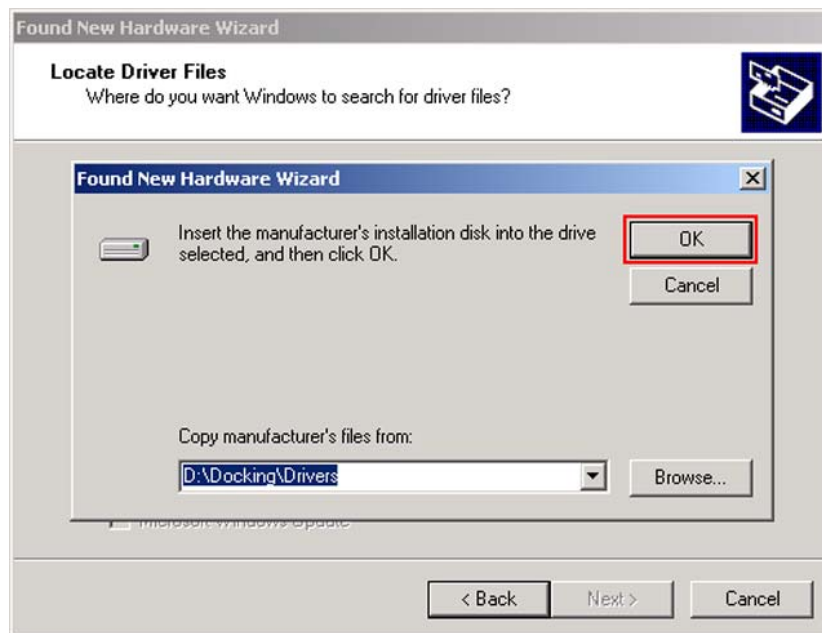
Step14 : Choose click **“Next”**.



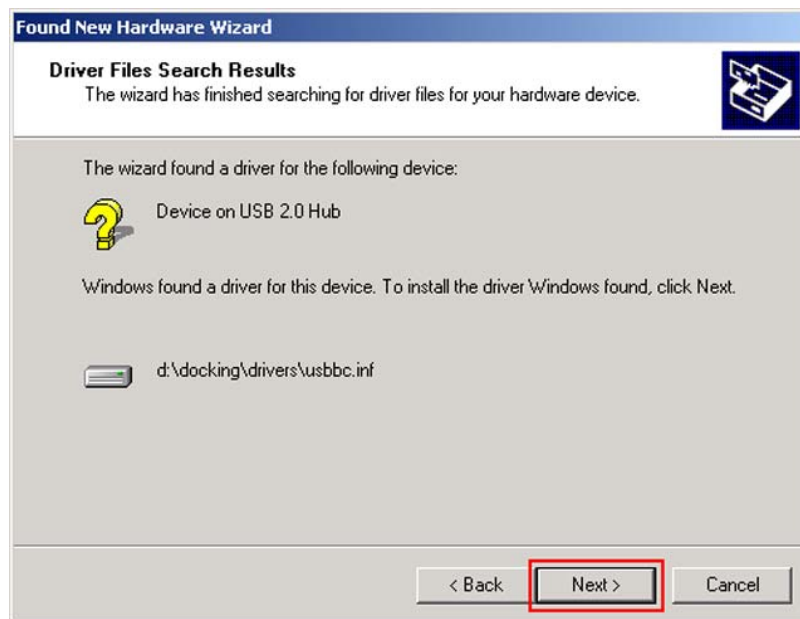
Step15 : Select “CD-ROM drives” or “Specify a Location”, choose click **“Next”**.



Step16 : Browser a CD driver specify a location, choose click “OK”.



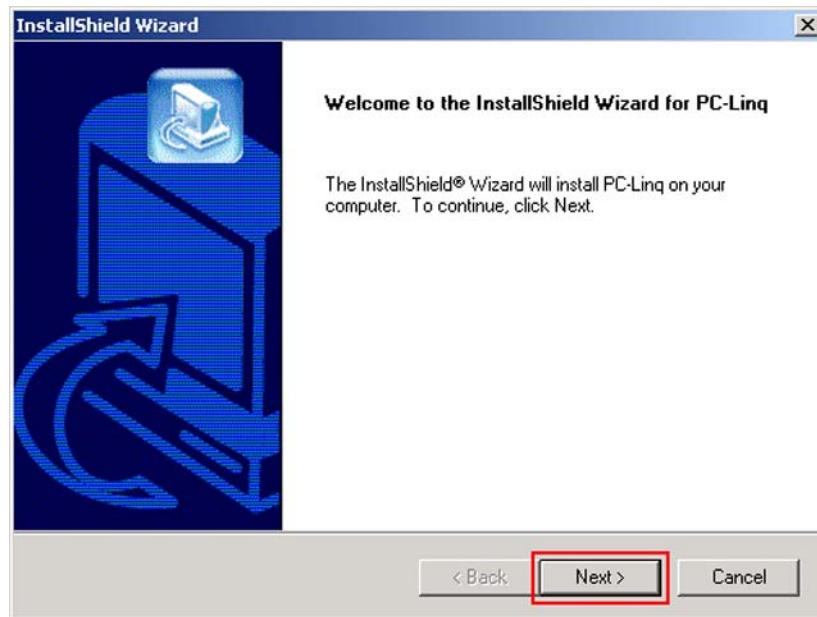
Step17 : Choose click “Next”.



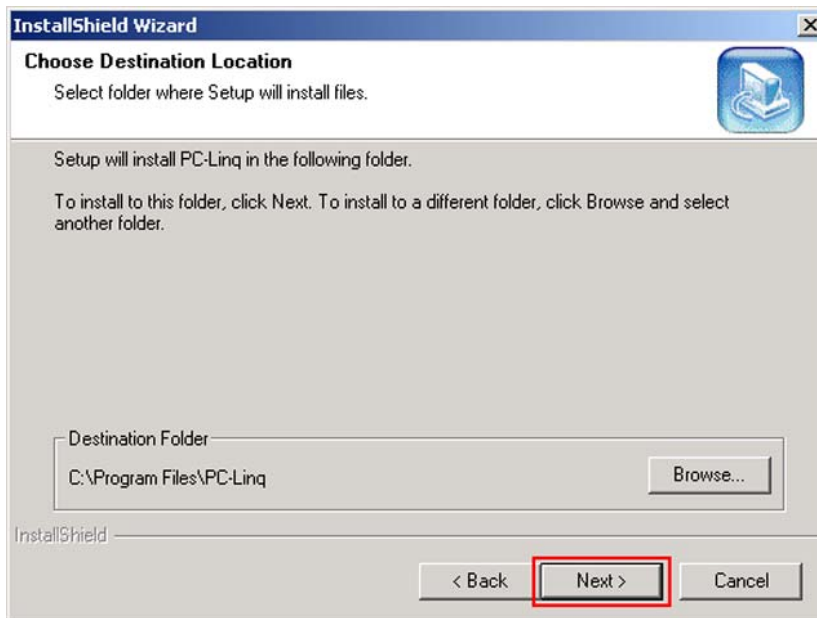
Step18 : Choose click **“Finish”**.



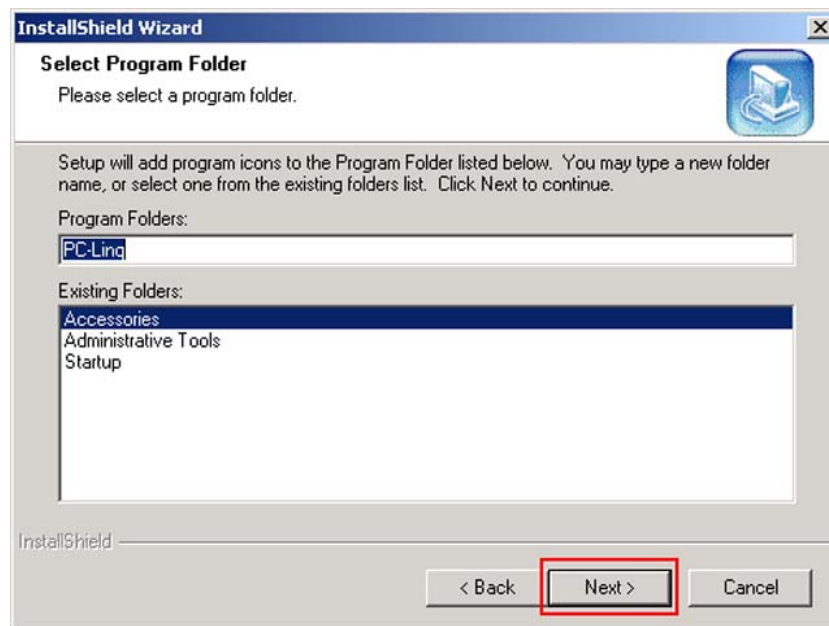
Step19 : Choose click **“Next”**.



Step20 : Choose click **“Next”**.

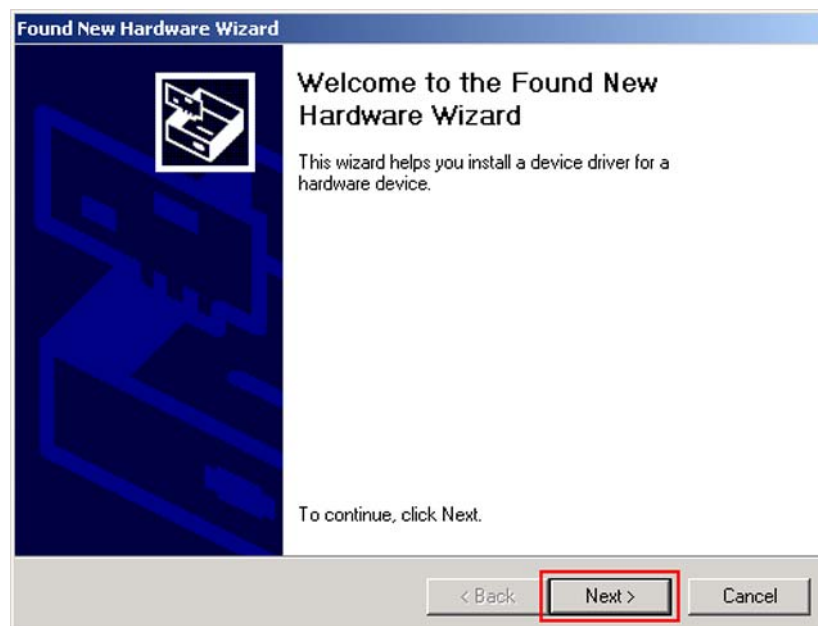


Step21 : Choose click **“Next”**.



The PC-Linq icon PC-Linq will appear on the desktop

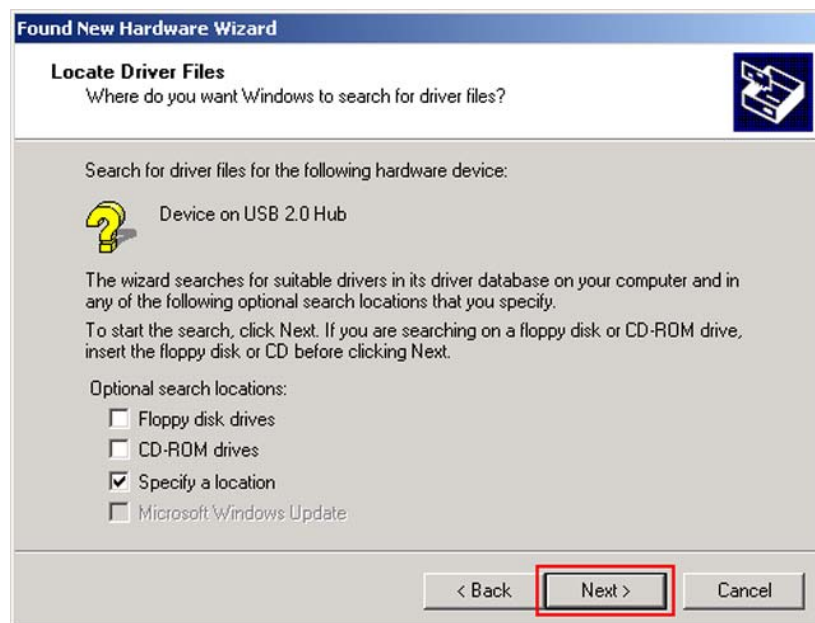
Step22 : Choose click **“Next”**.



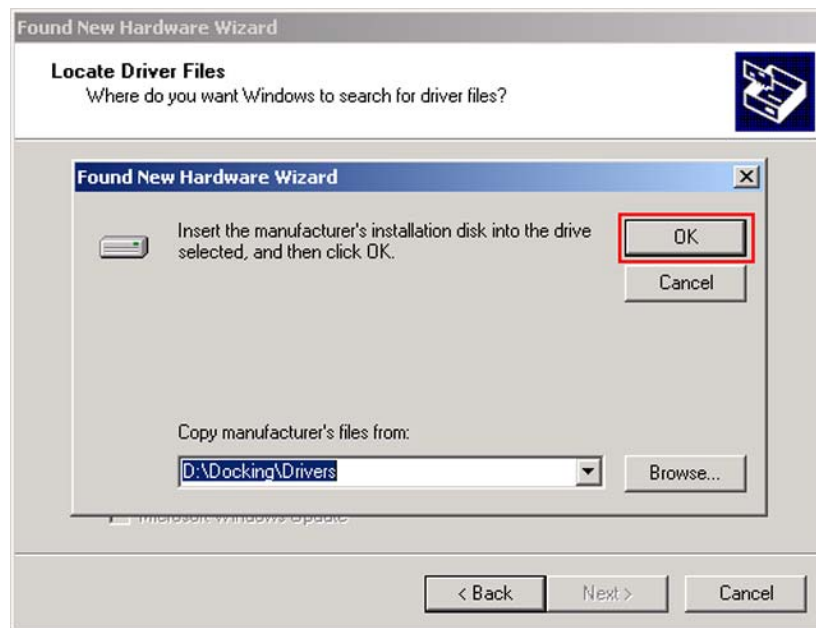
Step23 : Choose click **“Next”**.



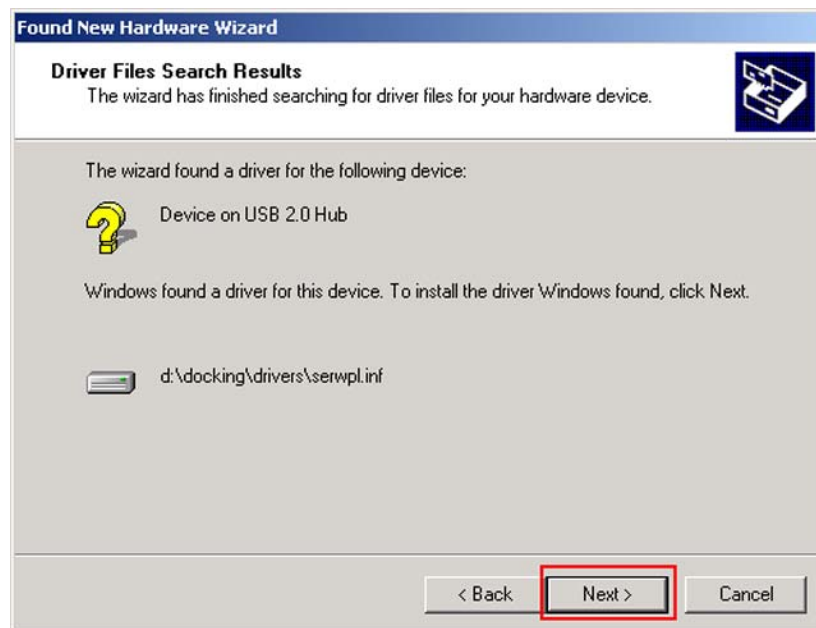
Step24 : Select “CD-ROM drives” or “Specify a Location”, choose click “**Next**”.



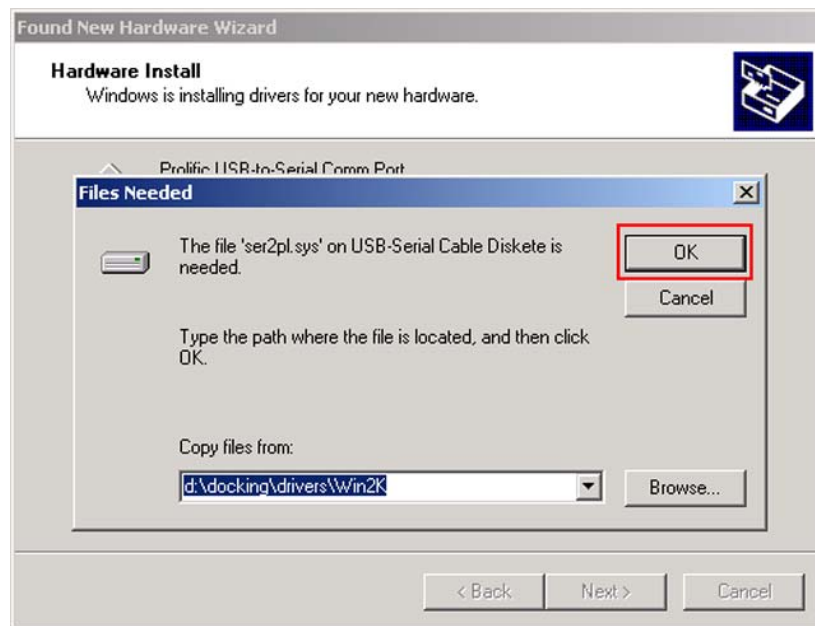
Step25 : Browser a CD driver specify a location, choose click “**OK**”.



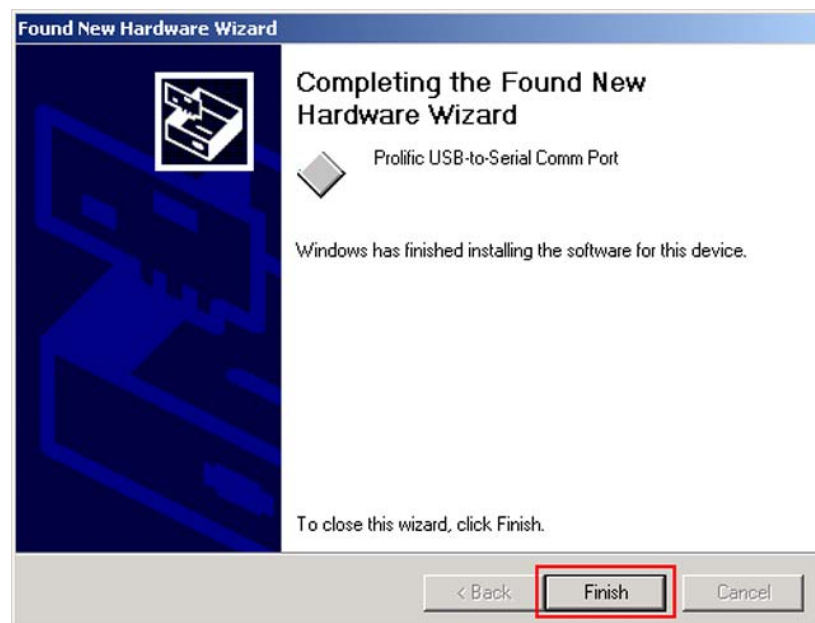
Step26 : Choose click **“Next”**.



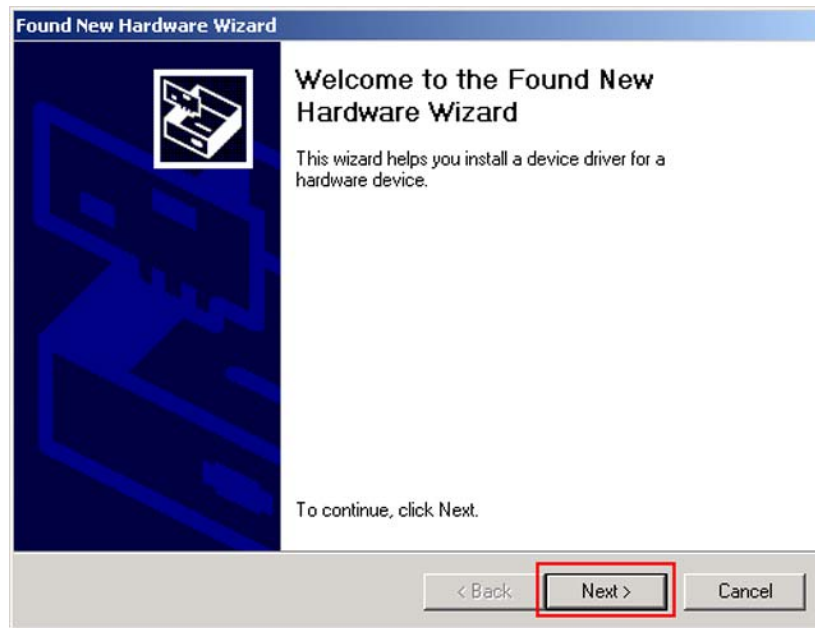
Step27 : Browser a CD driver specify a location, choose click **“OK”**.



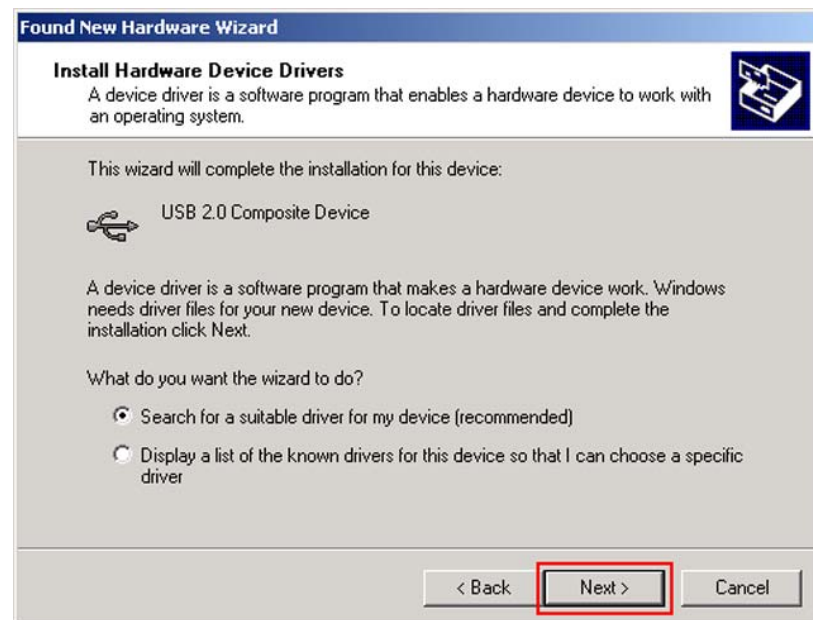
Step28 : Choose click **"Finish"**.



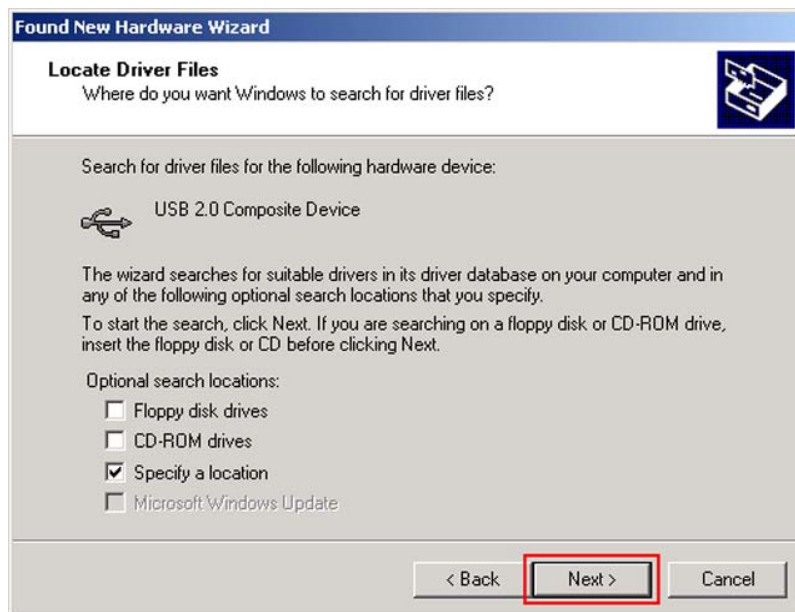
Step29 : Choose click **"Next"**.



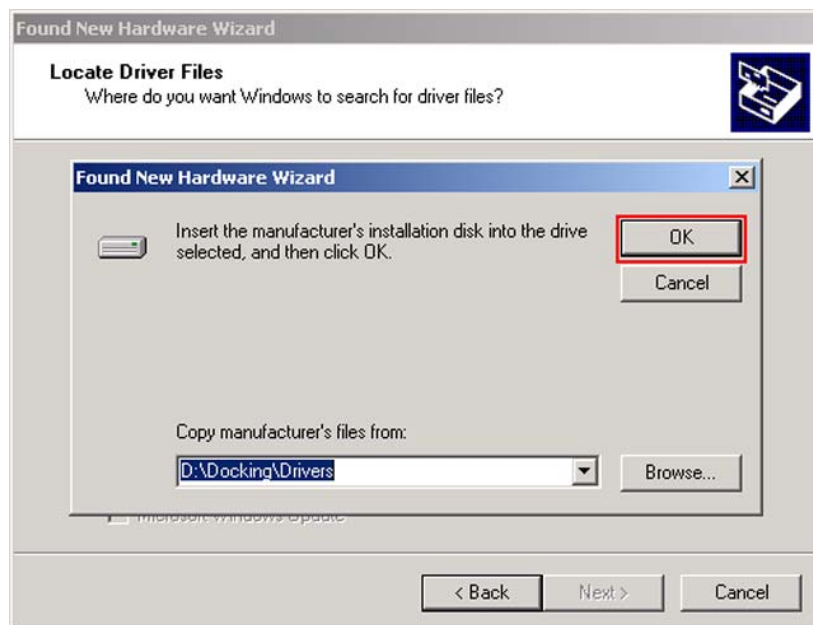
Step30 : Choose click **“Next”**.



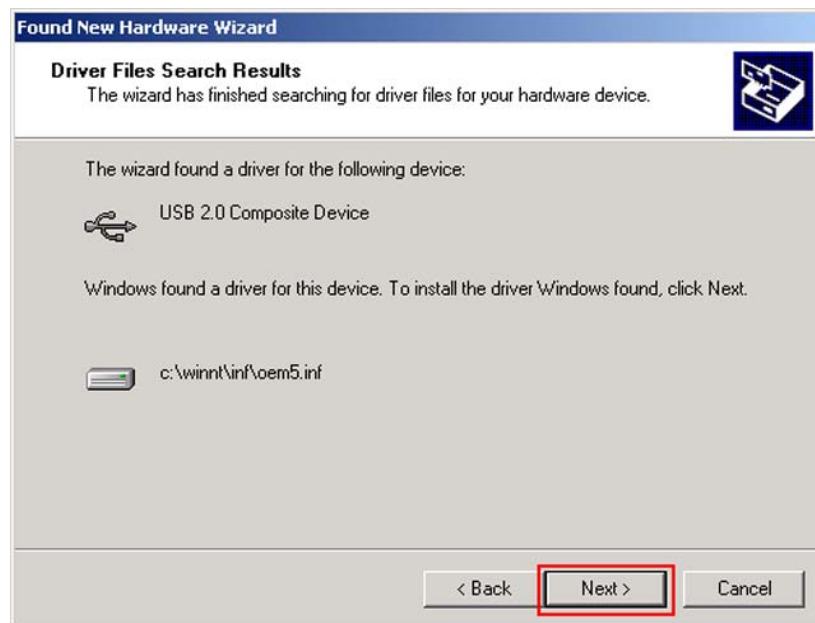
Step31 : Select “CD-ROM drives” or “Specify a Location”, choose click **“Next”**.



Step32 : Browser a CD driver specify a location, choose click “OK”.



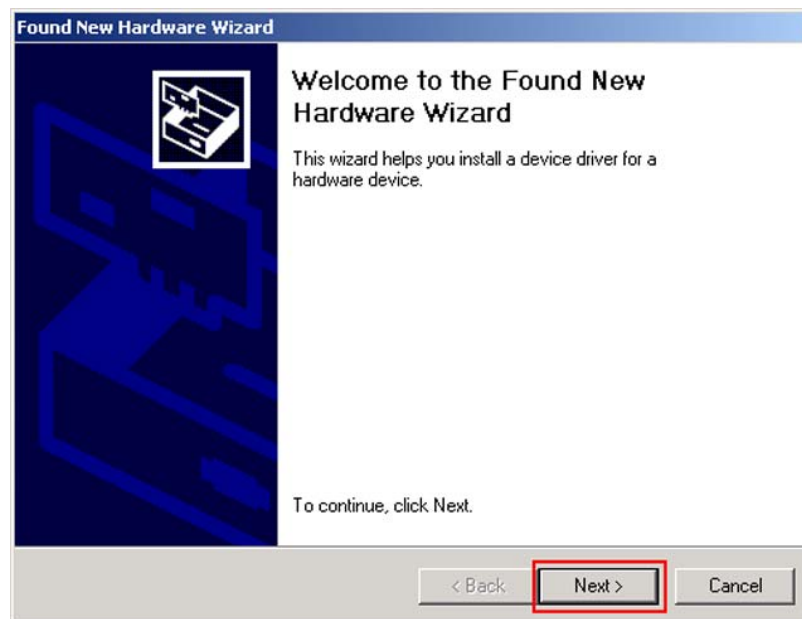
Step33 : Choose click “Next”.



Step34 : Choose click **“Finish”**.



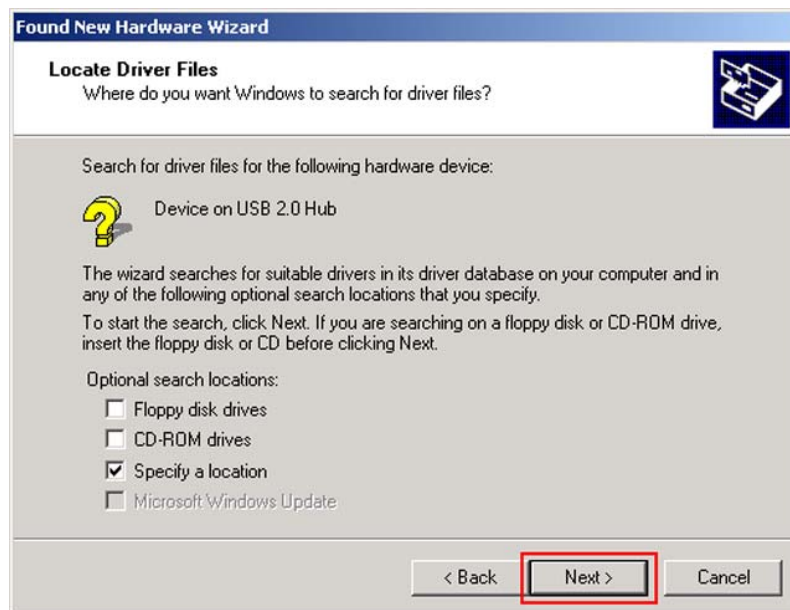
Step35 : Choose click **“Next”**.



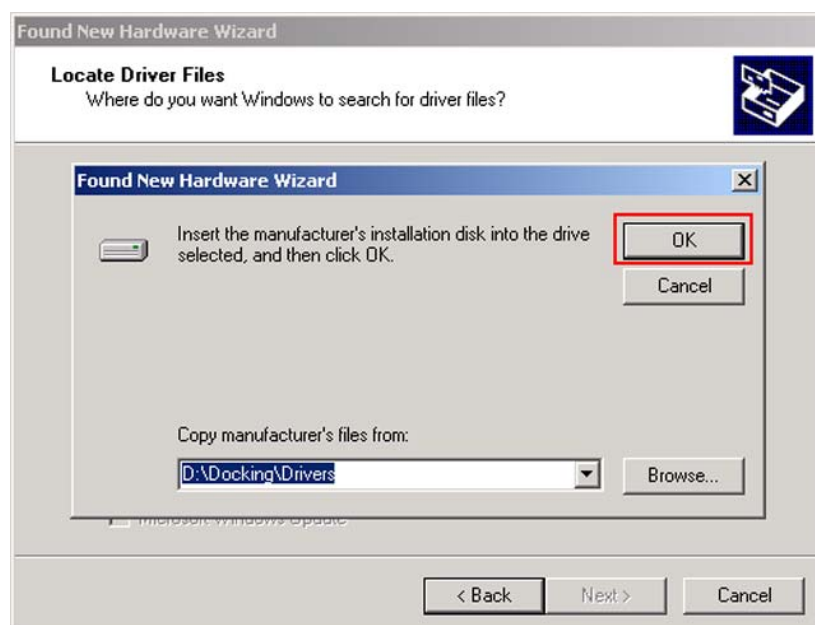
Step36 : Choose click **“Next”**.



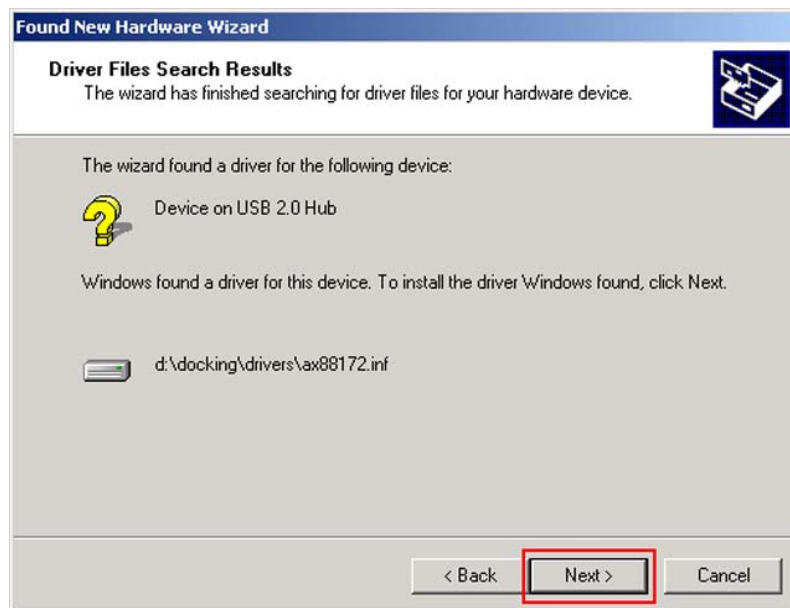
Step37 : Select “CD-ROM drives” or “Specify a Location”, choose click **“Next”**.



Step38 : Browser a CD driver specify a location, choose click “OK”.



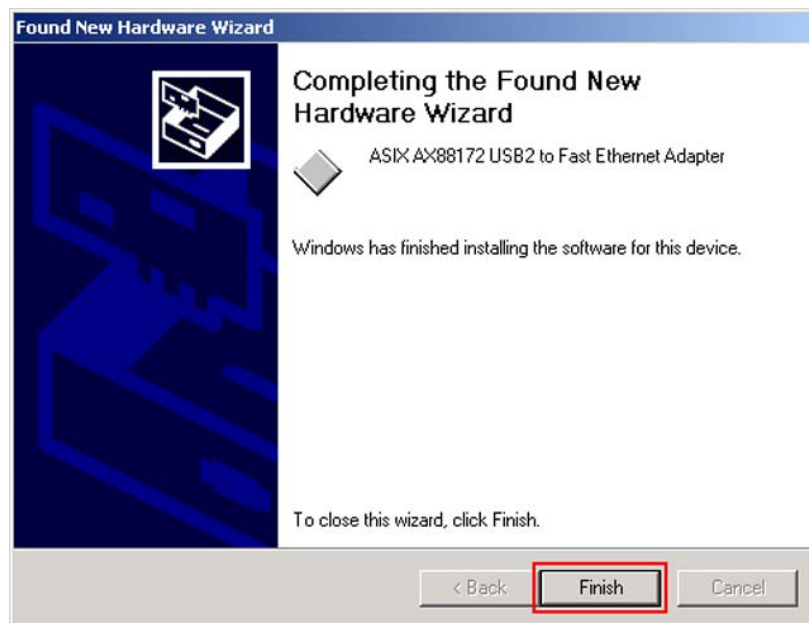
Step39 : Choose click “Next”.



Step40 : Choose click **“Yes”**.

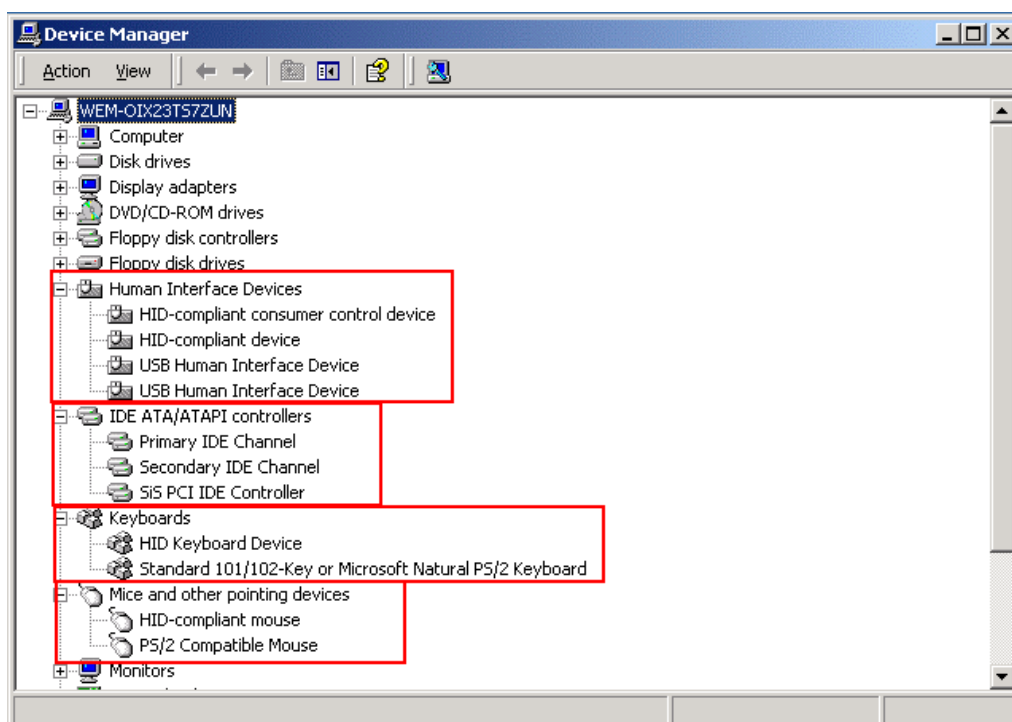


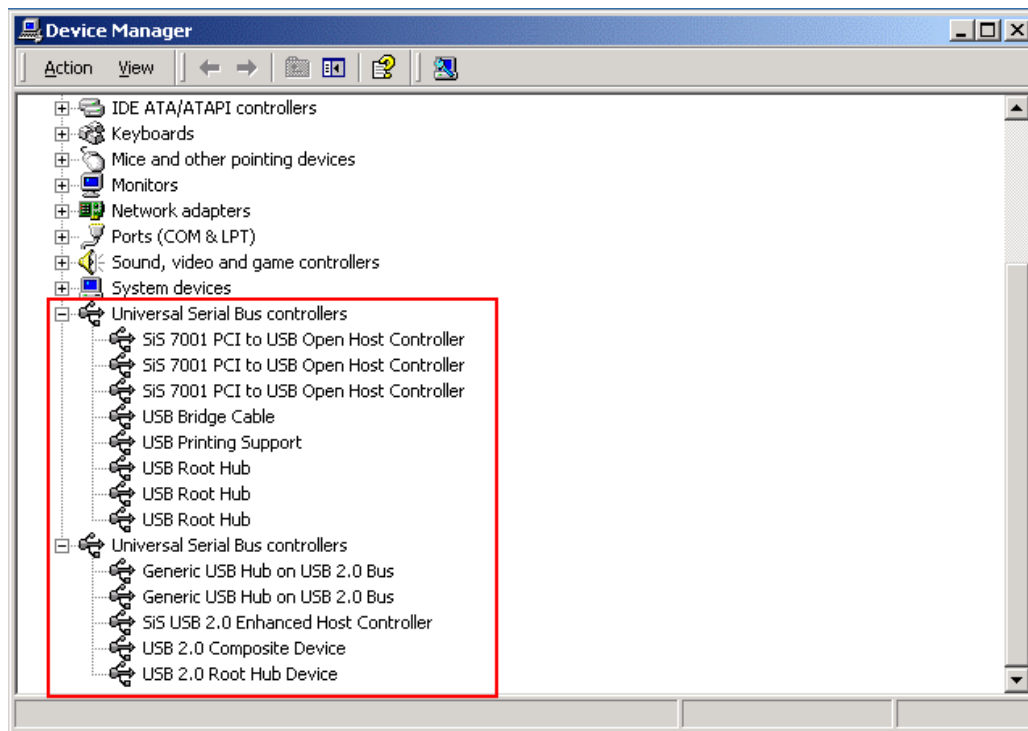
Step41 : Choose click **“Finish”**.



Step42 : The driver has been setup successfully. Please re-start the computer.

Step43 : Installation verification.





Host Link on Other Computer

- Step1 :** Power on both computers where you will connect the PC-Linq cable and make sure that the USB port is enabled and working properly.
- Step2 :** Plug in the USB cable into the USB port and Windows will detect an unknown device and run the **Add New Hardware Wizard** to assist you in setting up the new device.
- Step3 :** Insert the PC-Linq USB cable driver diskette into the floppy drive and click **Next** to continue.
- Step4 :** Select **Search for the best driver for your device** and click **Next**.
- Step5 :** Select **Floppy disk drives** and click **OK**.
- Step6 :** Windows will detect the driver and shows the **USB Bridge Cable**. Click **NEXT** to continue installation.
- Step7 :** Then the PC-Linq Setup program will start to begin program installation.
- Step8 :** Follow the instructions on every dialog box to finish the installation.
- Step9 :** After installation is complete, a shortcut of the PC-Linq program will be placed on your Windows desktop.

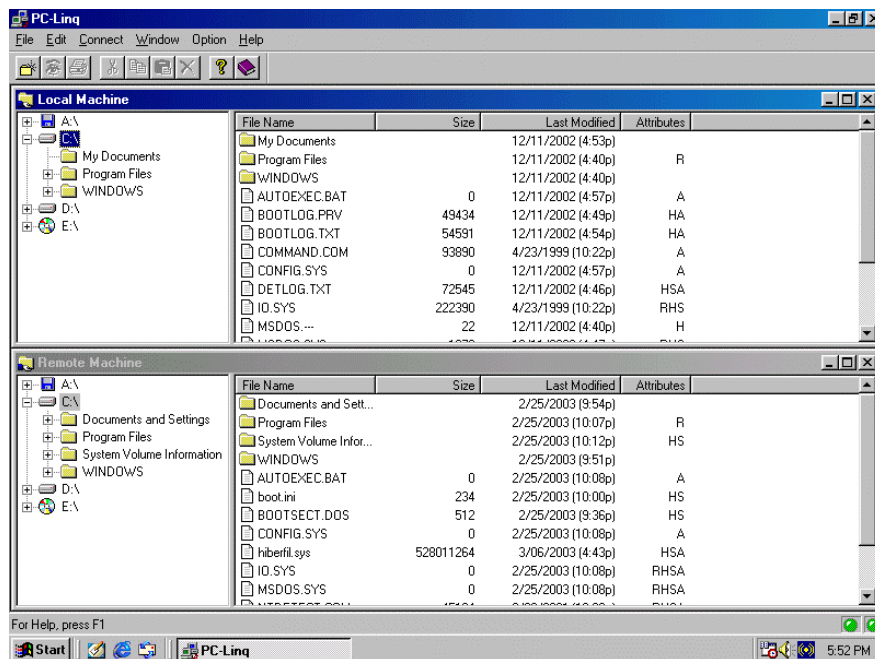
Running the PC-Linq Program

Follow the steps below on how to run the PC-Linq program:

Step1 : Plug in both ends of the PC-Linq USB cable to the two computers.

Step2 : Double-click on the PC-Linq shortcut icon on your desktop screen. Do the same for the other computer.

Step3 : The PC-Linq File Manager will appear on your screen and will detect both the local and remote machine. This is much similar with Windows Explorer file manager where you can cut, copy, paste, or drag files and folders.



Step4 : You can also print text or document files from the remote machine to your local printer by clicking on the file and run File-Print command.

Step5 : There are two LED-like indicators found on the bottom-right corner of the PC-Linq File Manager. These indicators show the connection status of the remote and local machine. The left LED is for the local machine, while the right LED is for the remote machine. A green LED indicates that the connection is good while a red LED indicates that connection is not found. Both LEDs need to be in green color for a proper link and operation. If one LED is red, either the USB cable is not properly connected, or the software is not properly installed, or the PC is in suspend mode.

Step6 : Click on the Help Topics icon (rightmost icon) for more information on how to use the program.

Notice

1. In order to achieve the USB 2.0 Speed for this **Docking Station** must be plugged in to USB 2.0 Host and Windows 2000 or Windows XP. If this **Docking Station** is plugged into USB 1.1 Host, will only have USB 1.1 Speed.
2. Some Mainboard may have its OWN driver for the USB 2.0 Host drive, please make sure your Mainboard or PC manufacturer for update details.
3. In windows 98SE and ME, the **Docking Station** driver has two parts to working with system, one is virtual COM port driver, and the other one is USB support driver. Since we designed **Docking Station** has not IRQ feature to avoid resource consume (because IRQ is limited), and it want to follow USB spec that can hot plug/unplug, so **Docking Station** of driver and hardware both can't support device that is to operate with IRQ feature, as we know, the older serial Keyboard and mouse are work with IRQ to interrupt OS to service its requirement, that's why **Docking Station** can't work in Keyboard/Mouse.

Serial/Parallel Port Limitation for support serial Keyboard and Mouse

In Windows 98SE and ME, the **Serial Port** driver has two parts to working with system, one is virtual COM port driver, and the other one is USB support driver.

Since we designed **Serial/Parallel Port** has not IRQ feature to avoid resource consume (because IRQ is limited), and it want to follow USB spec that can hot plug/unplug, so **Serial/Parallel Port** of driver and hardware both can't support device that is to operate with IRQ feature, as we know, the older serial Keyboard and mouse are work with IRQ to interrupt OS to service its requirement, that's why **Serial/Parallel Port** can't work in Keyboard/Mouse.

In Windows 2000/XP, **Serial/Parallel Port** driver is designed by Microsoft's WDM, and only have one driver that registry on port class, in this WDM driver, the COM port driver is more close with HID interface, so, **Serial/Parallel Port** driver also have some feature near with HID, but because they are different class, so it must has different in something.

We don't know how mouse be made by a company, so we don't know why some mouse can run well but another couldn't, we think it relatives with HID and COM. In fact, we think that only has very, very few people use tradition serial keyboard/mouse on PC, so the detail reason that why **Serial/Parallel Port** has issue with those device, because we haven't not so many resource to analysis it, so we let is a limitation on **Serial/Parallel Port**.

Appendix

Software Update :

If you have questions about USB 2.0 Host controller and **Docking Station**, please refer to this chart for clarifications :

USB 2.0 Host	Windows OS	USB 2.0 HOST driver update
NEC USB 2.0 Host	Windows 98SE	OWC(as known as OMI) driver version 2.0.4 or above
	Windows ME	
	Windows 2000	
	Windows XP	
Intel ICH4 Host on Mainboard Controller	Windows 98SE	OWC(as known as OMI) driver version 2.0.4 or above
	Windows ME	OWC(as known as OMI) driver version 2.0.4 or above
	Windows 2000	USB 2.0 Host driver
	Windows XP	1. USB 2.0 Host driver 2. Windows XP Service Pack 1
VIA Host and on Mainboard Controller	Windows 98SE	OWC(as known as OMI) driver version 2.0.4 or above
	Windows ME	OWC(as known as OMI) driver version 2.0.4 or above
	Windows 2000	USB 2.0 Host driver
	Windows XP	1. USB 2.0 Host driver 2. Windows XP Service Pack 1
SiS 962 Host on Mainboard Controller	Windows 98SE	Not Supported
	Windows ME	Not Supported
	Windows 2000	USB 2.0 Host driver
	Windows XP	1. USB 2.0 Host driver 2. Windows XP Service Pack 1

USB Speed :

PERFORMANCE	APPLICATIONS	ATTRIBUTES
LOW-SPEED • Interactive Devices • 10 – 100 kb/s	Keyboard, Mouse Stylus Game Peripherals Virtual Reality Peripherals	Lowest Cost Ease-of-Use Dynamic Attach-Detach Multiple Peripherals
FULL-SPEED • Phone, Audio, Compressed Video • 500 kb/s – 10 Mb/s	POTS Broadband Audio Microphone	Lower Cost Ease-of-Use Dynamic Attach-Detach Multiple Peripherals Guaranteed Bandwidth Guaranteed Latency
HIGH-SPEED • Video, Storage • 25 – 400 Mb/s	Video Storage Imaging Broadband	Low Cost Ease-of-Use Dynamic Attach-Detach Multiple Peripherals Guaranteed Bandwidth Guaranteed Latency High Bandwidth

The USB transfers signal and power over a four-wire cable. The signaling occurs over two wires on each point-to-point segment.
There are three data rates:

- The USB high-speed signaling bit rate is 480 Mb/s.
- The USB full-speed signaling bit rate is 12 Mb/s.
- A limited capability low-speed signaling mode is also defined at 1.5 Mb/s.

USB 2.0 host controllers and hubs provide capabilities so that full-speed and low-speed data can be transmitted at high-speed between the host controller and the hub, but transmitted between the hub and the device at full-speed or low-speed. This capability minimizes the impact that full-speed and low-speed devices have upon the bandwidth available for high-speed devices.

The low-speed mode is defined to support a limited number of low-bandwidth devices, such as mice, because more general use would degrade bus utilization.

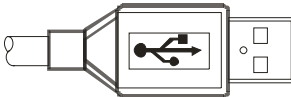
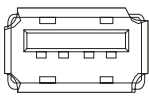
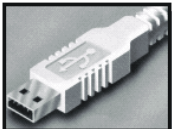
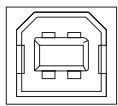
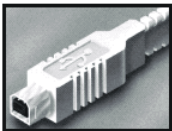
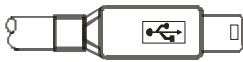
Abbreviations :

kb/s	Transmission rate expressed in kilobits per second.
kB/s	Transmission rate expressed in kilobytes per second.
Mb/s	Transmission rate expressed in megabits per second.
MB/s	Transmission rate expressed in megabytes per second.
Low-speed	USB operation at 1.5 Mb/s. See also full-speed and high-speed.
Full-speed	USB operation at 12 Mb/s. See also low-speed and high-speed.
High-speed	USB operation at 480 Mb/s. See also low-speed and full-speed.
Hub	A USB device that provides additional connections to the USB.
Upstream	The direction of data flow towards the host. An upstream port is the port on a device electrically closest to the host that generates upstream data traffic from the hub. Upstream ports receive downstream data traffic.
Downstream	The direction of data flow from the host or away from the host. A downstream port is the port on a hub electrically farthest from the host that generates downstream data traffic from the hub. Downstream ports receive upstream data traffic.
Device	A logical or physical entity that performs a function. The actual entity described depends on the context of the reference. At the lowest level, device may refer to a single hardware component, as in a memory device. At a higher level, it may refer to a collection of hardware components that perform a particular function, such as a USB interface device. At an even higher level, device may refer to the function performed by an entity attached to the USB; for example, a data/FAX modem device. Devices may be physical, electrical, addressable, and logical. When used as a non-specific reference, a USB device is either a hub or a function.
Driver	When referring to hardware, an I/O pad that drives an external load. When referring to software, a program responsible for interfacing to a hardware device, that is, a device driver.
Port	Point of access to or from a system or circuit. For the USB, the point where a USB device is attached.
Host	The host computer system where the USB Host Controller is installed. This includes the host hardware platform (CPU, bus, etc.) and the operating system in use.

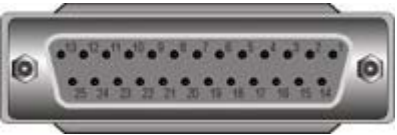
Host Controller	The host's USB interface.
OHCI	Open Host Controller Interface
UHCI	Universal Host Controller Interface
USB	Universal Serial Bus
Universal Serial Bus Driver (USBD)	The host resident software entity responsible for providing common services to clients that are manipulating one or more functions on one or more Host Controllers.

Keyed Connector Protocol :

USB uses a “keyed connector” protocol. The physical difference in the Series “A” and “B” connectors insures proper end user connectivity. The “A” connector is the principle means of connecting USB devices directly to a host or to the downstream port of a hub. All USB devices must have the standard Series “A” connector specified in this chapter. The “B” connector allows device vendors to provide a standard detachable cable. This facilitates end user cable replacement.

TYPE	MALE	FEMALE	
A			
B			
Mini-B			

6-pin Mini Din	 6-pin Mini Din Female	Used for I/O applications: mouse, keyboard. The 6-pin Mini Din connector has 6-pins arranged in a round connector. Also known as a PS/2 connector
DB9	 DB9 Male	Used for serial applications: modem. The DB9 connector has 9-pins arranged in two rows one on top of the other. The top row has 5 pins and the lower row has 4 pins.

DB25	 DB25 Female	Used for parallel, serial or scsi applications: printer. The DB25 connector has 25-pins arranged in two rows one on top of the other. The top row has 13 pins and the lower row has 12 pins.
8-pin RJ-45	 8-pin RJ-45 Plug	Used for voice/data applications: pbx, networking, dumb terminal, point-of-sale. The RJ-45 connector has 8-position, 8-conductor arranged in a single row.

Macintosh OS Compatibility Testing Report :

This Testing Report on Mac OS G3 connect to Mac USB Host and Mac OS G4 connect to NEC PCI USB 2.0 Host Card , free driver

		Mac OS G3 Host			Mac OS G4 With NEC PCI USB 2.0 Card			
I/O Port	Device	8.5	8.6	9.0.4	9.2.1	9.2.2	10.1.3	10.2.3
USB Hub	Mouse	✗	✓	✗	✓	✓	✗	✓
	3.5" USB Storage	✗	✓	✗	✓	✓	✗	✓
PS/2 Mouse	Mouse	✗	✓	✗	✓	✓	✗	✓
	Keyboard	✗	✓	✗	✓	✓	✗	✓
PS/2 Keyboard	Mouse	✗	✓	✗	✓	✓	✗	✓
	Keyboard	✗	✓	✗	✓	✓	✗	✓
Serial Port	Mouse	✗	✗	✗	✗	✗	✗	✗
	Modem	✗	✗	✗	✗	✗	✗	✗
Parallel Port	Printer (HP 6L)	✗	✗	✗	✗	✗	✗	✗
	Scanner	✗	✗	✗	✗	✗	✗	✗
Host Link	Link to PC	✗	✗	✗	✗	✗	✗	✗
	Link to Mac	✗	✗	✗	✗	✗	✗	✗
Ethernet	ADSL	✗	✗	✗	✗	✗	✗	✗
	Switch Hub	✗	✗	✗	✗	✗	✗	✗